

CONTINUING ISSUES IN THE FIELD



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Training Coordinator
Alabama Public Service Commission

Revised 11/5/2017

NOTICE OF CONSTRUCTION

Operator Name:											
District:											
Notification Date:											
Contact:								Phone:			
Construction Location: Provide Closest Intersection to Start Location OR Valid Address						·					
ANTICIPATED START DATE:											
Check or Fill Each Box that Applies											
Construction Performed By:			Operator: □					Contractor: □			
Contractor Name:											
Pipe Material:	ipe Material:			Steel: □					P.E: □		
Type of Construction:	Exte	nsion: 🗆 Reloca			ition: [Replacement □				
Pipe Specifications											
Project Length :	0.1				.D:						
Wall:			SDR::				SMYS: (steel cold)				
MAOP:	one T	est	Pressu	re:	(poly)	Ai	r: 🛮		Water:□		
Distribution:					Tı	Transmission: □					

DIG SAFELY, CALL FOR A LINE LOCATE 48 HOURS BEFORE EXCAVATING! PLEASE SUBMIT THIS NOTICE 2 WEEKS PRIOR TO CONSTRUCTION:

ASE SUBMIT THIS NOTICE 2 WEEKS PRIOR TO CONSTRUCTION: RETURN TO:

RETURN TO:
ALABAMA PUBLIC SERVICE COMMISSION
GAS PIPELINE SAFETY
P O BOX 304260
MONTGOMERY, AL 36130-4260
OR
FAX (334)242-0687

Email: felisa.webster@psc.alabama.gov

This form was generated in an effort to comply with APSC Gas Pipeline Safety Rule No. 6: "All construction work involving the addition and/or replacement of gas pipelines or mains greater than 1,000 feet in length shall be reported to the APSC before construction begins."

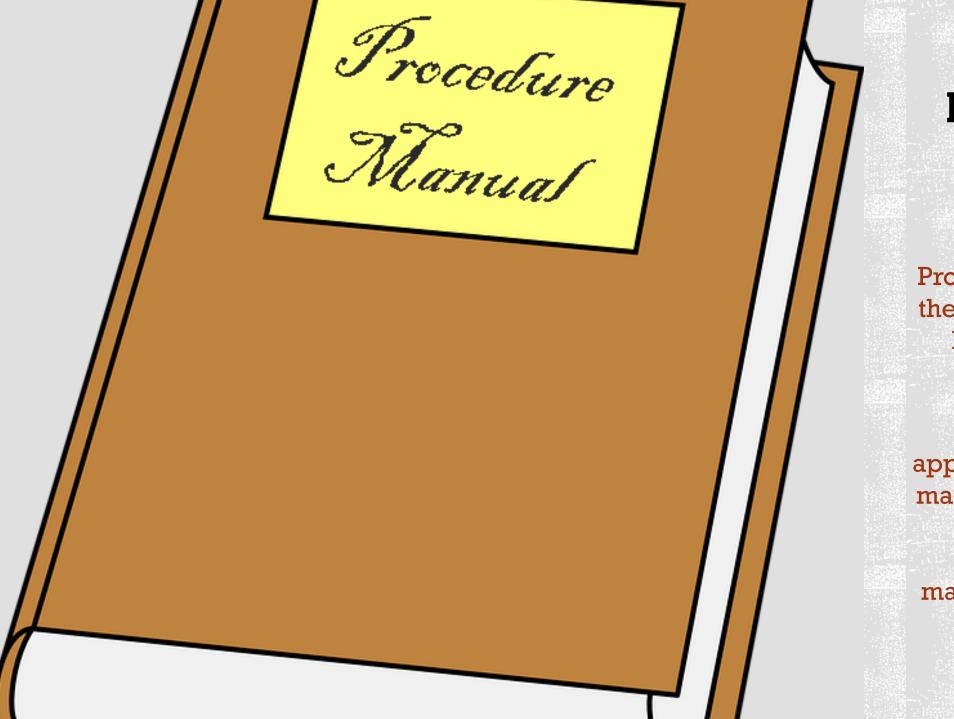
NOTICE OF CONSTRUCTION FORM

Notification of any pipe being installed, 1000 ft or more this includes mains and services.

Must be made prior to starting project.

Must contain a valid address or street intersection.

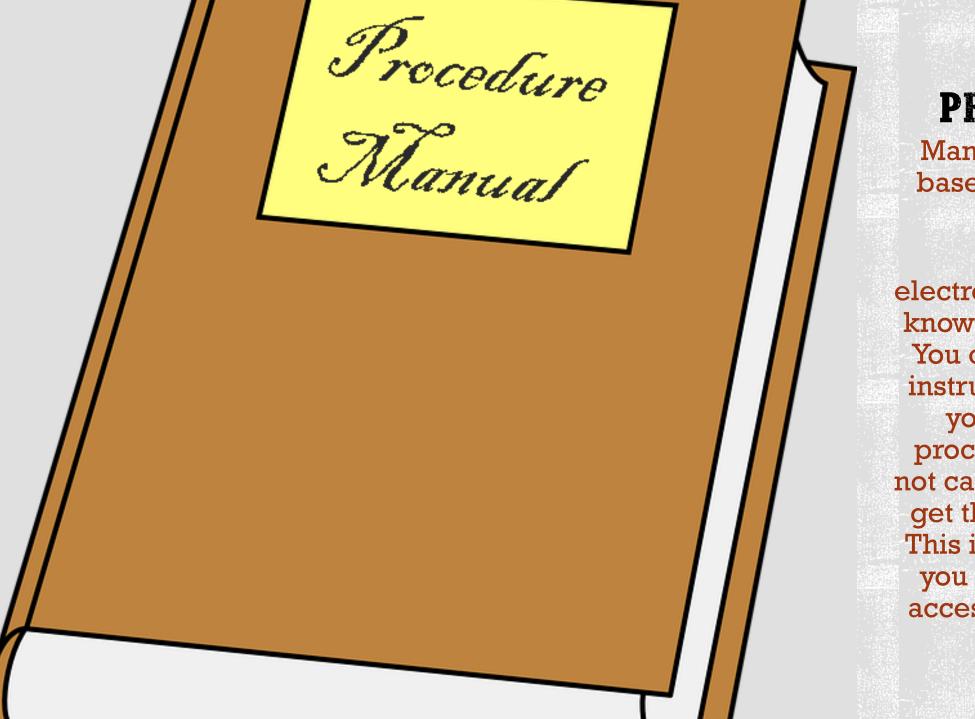
Include the County in the District space on the form.



Procedures must be on the job site for the task being performed

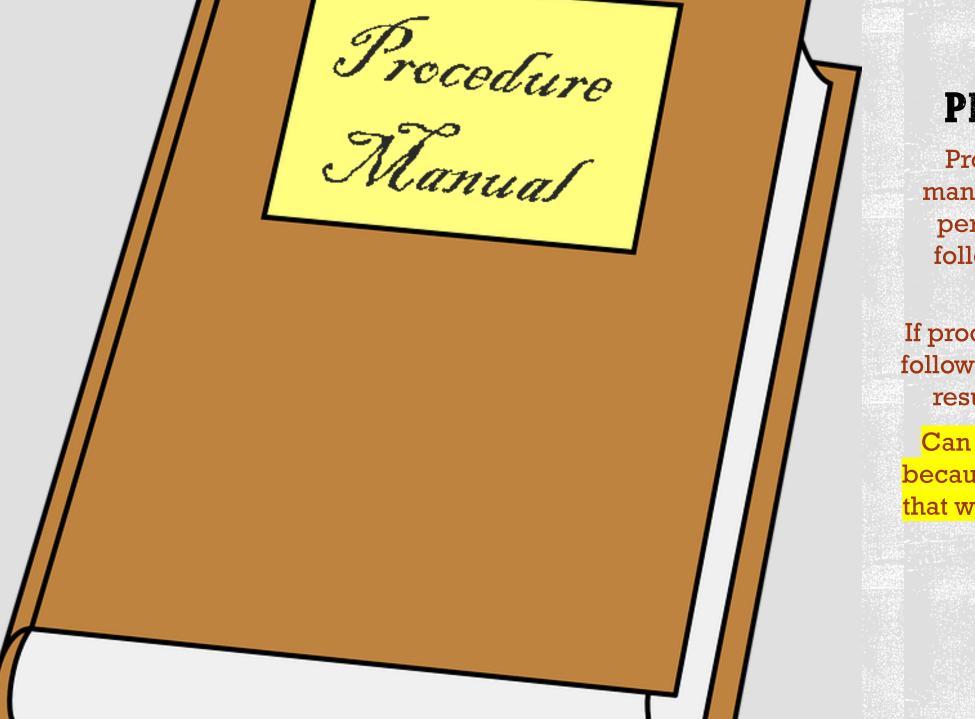
192.605 (a) ...
appropriate parts of the manual must be kept at location where operations and maintenance activities are conducted.





Manual can be web based/cloud based etc.

If it is kept electronically, you must know how to access it. You can have written instructions to "walk" you through the process, but you can not call "the office" and get them to help you. This is not acceptable you must be able to access it on your own in the field.

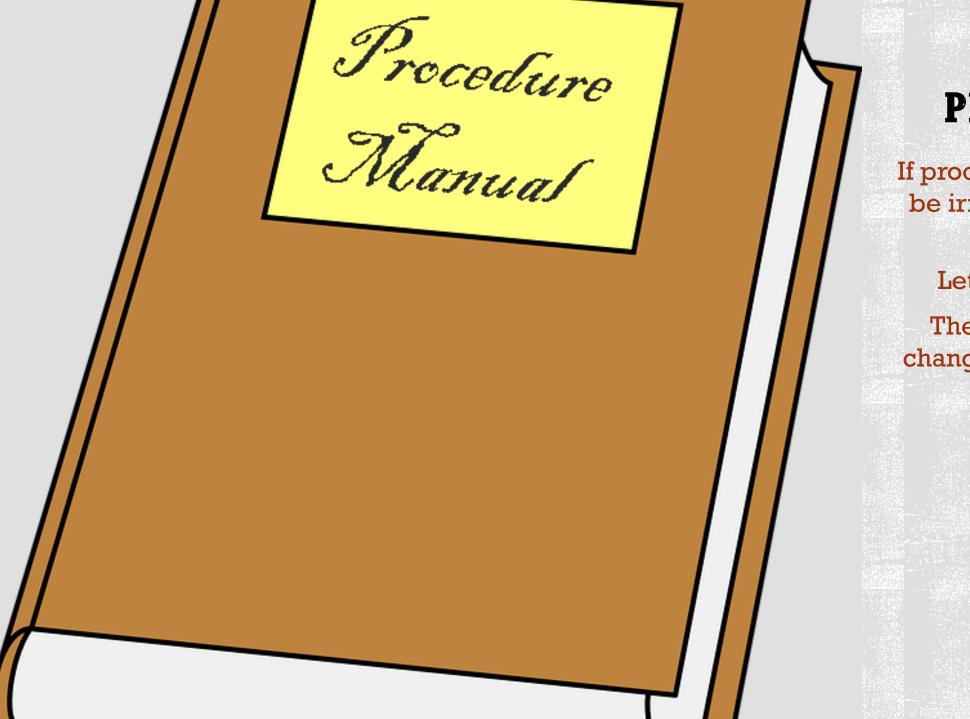


Procedures in the manual that are being performed must be followed as they are written.

If procedure is not being followed as written, it can result in a violation.

Can not skip a section because "it doesn't work that way" or "we don't do it that way"





If procedures are found to be irrelevant, incorrect, outdated etc.

Let someone know!

There is a process to change them and it is not complicated.





PROOF OF QUALIFICATION

Qualification proof should be kept on the job site. Each individual performing a covered task must have proof of qualification for that task.



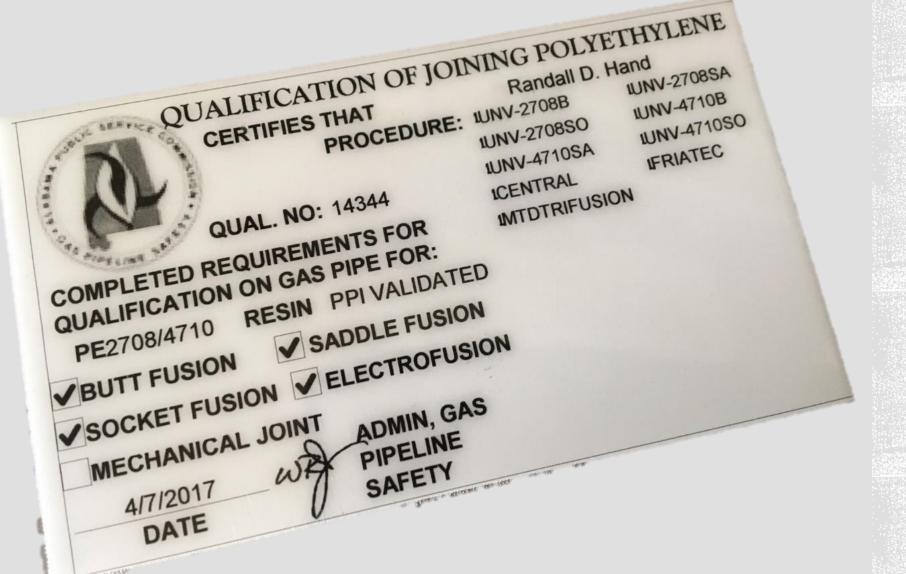


PROOF OF QUALIFICATION

Qualification proof should have the task that the individual is covered to perform

Date that Qualification was obtained and requalification date.



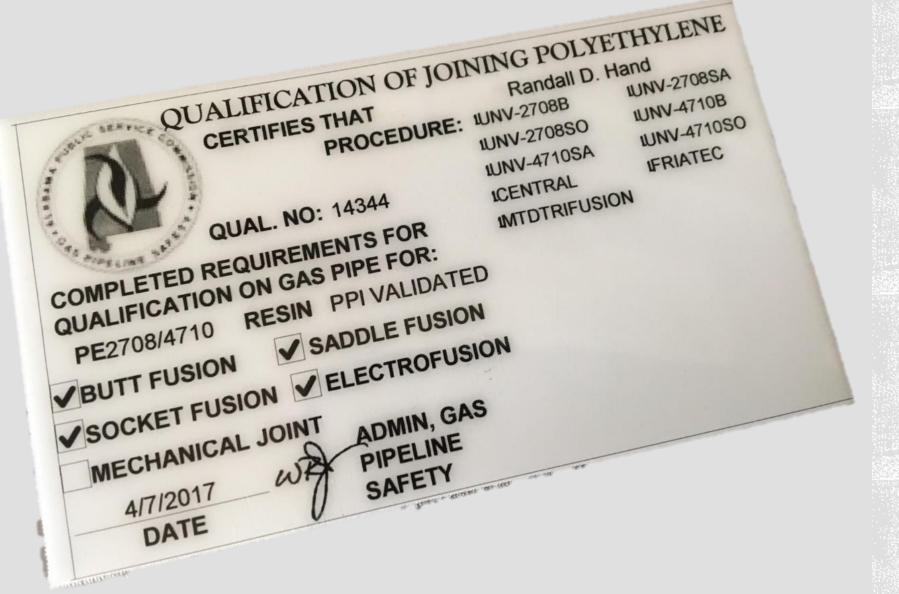


PROOF OF FUSION QUALIFICATION

Proof of qualification for FUSION, MUST BE ONSITE WITH THE INDIVIDUAL doing the fusing.

Fusion Qualification must be done at least once every 12 months not to exceed 15 months





PROOF OF FUSION QUALIFICATION

The fusion qualification that the PSC provides is ONLY good for

TR-33

UNIVERSAL PROCEDURES

If you are using different parameters for fusing-

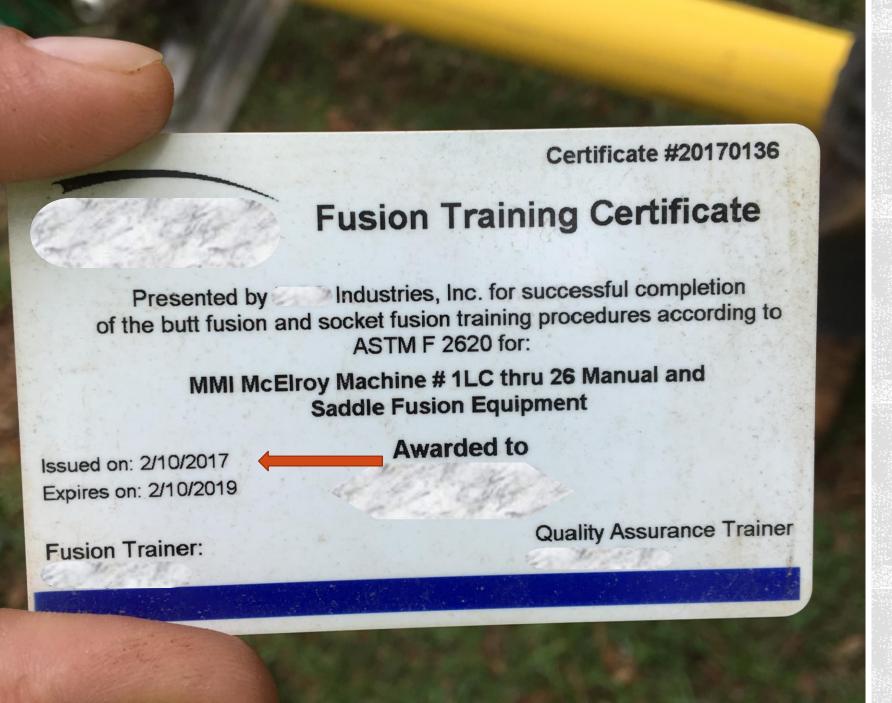
Temperature, Heating Times, Bead Size etc.

This card is NOT valid.

If you are using parameters different than the procedures you provide us and you DO NOT have proof of qualification under those procedures.

You may receive a violation and all of the fuses that you have done may be removed from where they were installed.





PROOF OF FUSION QUALIFICATION

Fusion Qualification Proof MUST Have the Type of Fusion that is Covered

EXAMPLE:

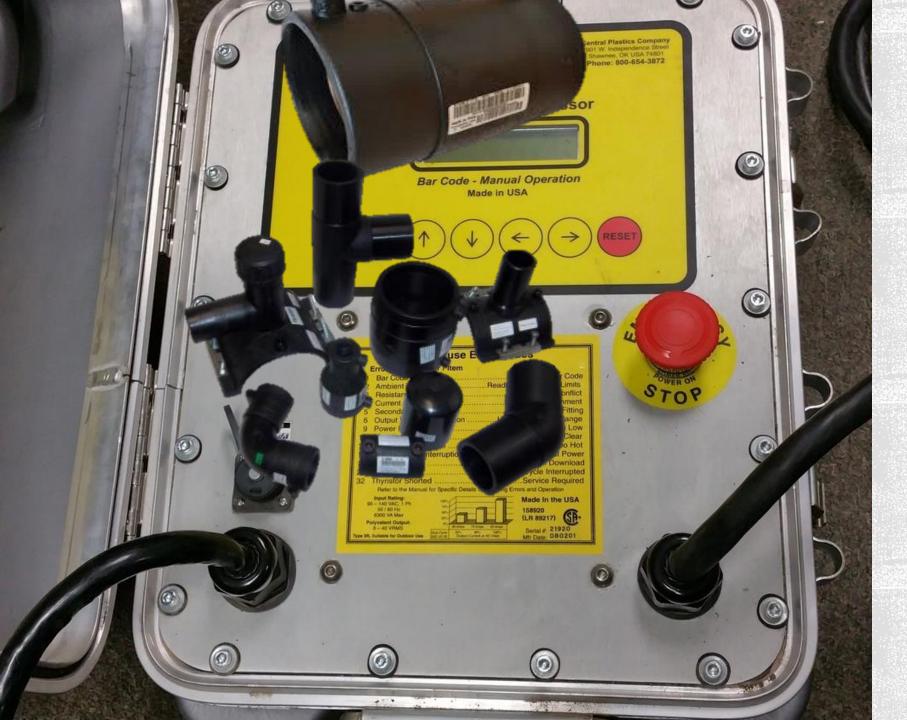
Socket Fusion, Sidewall Fusion,
Butt Fusion ETC.

IT Is NOT Good For Two Years

If you are using parameters different than the procedures you provide us and you DO NOT have proof of qualification under those procedures.

You may receive a violation and all of the fuses that you have done may be removed from where they were installed.







Electrofusion Joining Procedures for Sidewall/Saddle Fittings (for use with under-clamp on 1-1/4" - 6" fitting bases)

1.) Identify the location of the fitting to be installed on the pipe and mark the area with a non-greasy marker.





- 2.) Check the pipe surface for any embedded debris that may cause damage to scraping tools making sure that the outer pipe surface is clean and free of any dirt or mud that could recontaminate the scraped pipe surfaces.
- Scrape the area to be fused with an approved scraping tool. Make sure that the appropriate amount of material is removed approx. .007" to .0010".

Do not use abrasives, grinding wheels, or other devices that do not cleanly remove the contaminated material.

NOTE: The purpose of scraping is to <u>remove</u> material from the pipe surface. Simply roughing up the fusion area will not allow an acceptable bond to take place. (see "Proper Pipe Preparation" page 3)





4.) Avoid touching the scraped pipe surface or the inside of the fitting as body oils and other contaminates can affect fusion joint performance. If the surfaces become contaminated, clean thoroughly with a clean, lint free towel and a minimum 70% concentration of isopropyl alcohol and allow to dry before assembling. Do not use alcohol with any additives other than water.

CAUTION:

AVOID ALL POSSIBLE RECONTAMINATION OF THE PREPARED SURFACE.

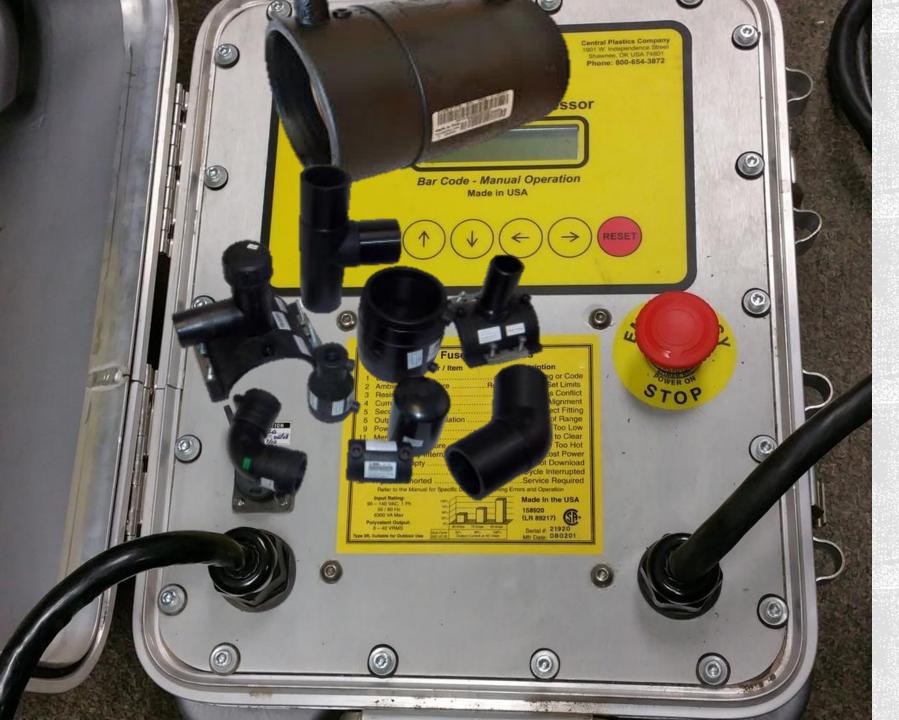
ELECTROPUSION

Procedures are "USUALLY" provided with the fitting being used.

They are generally on the packaging or inside of the packaging.

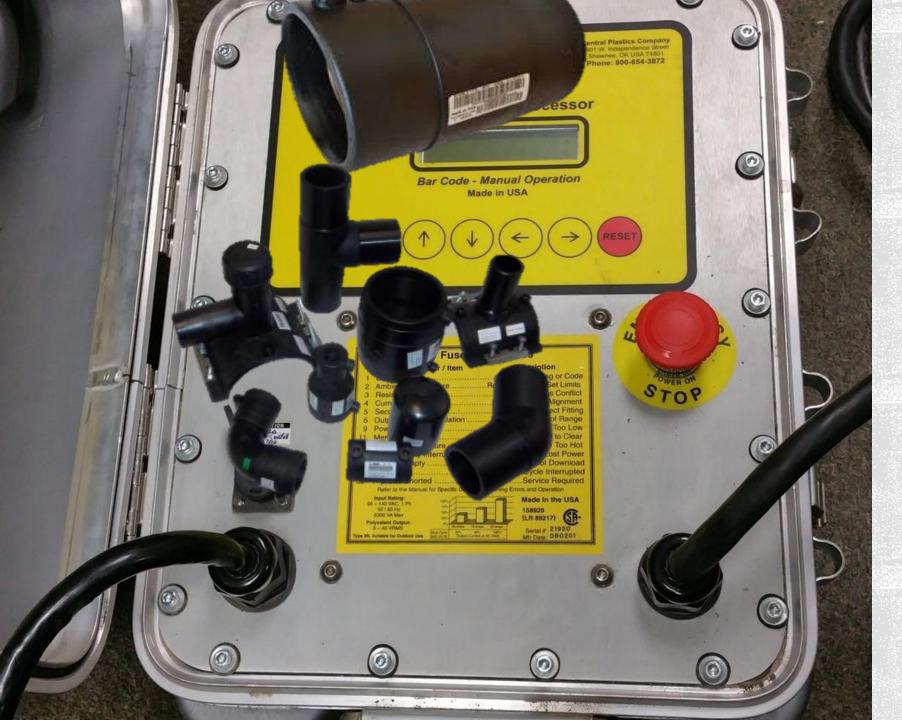
You must follow the procedures provided by the manufacturer at a minimum.





Electrofusion
Processors must be
updated and
calibrated in
accordance with the
manufacturers
recommendations.



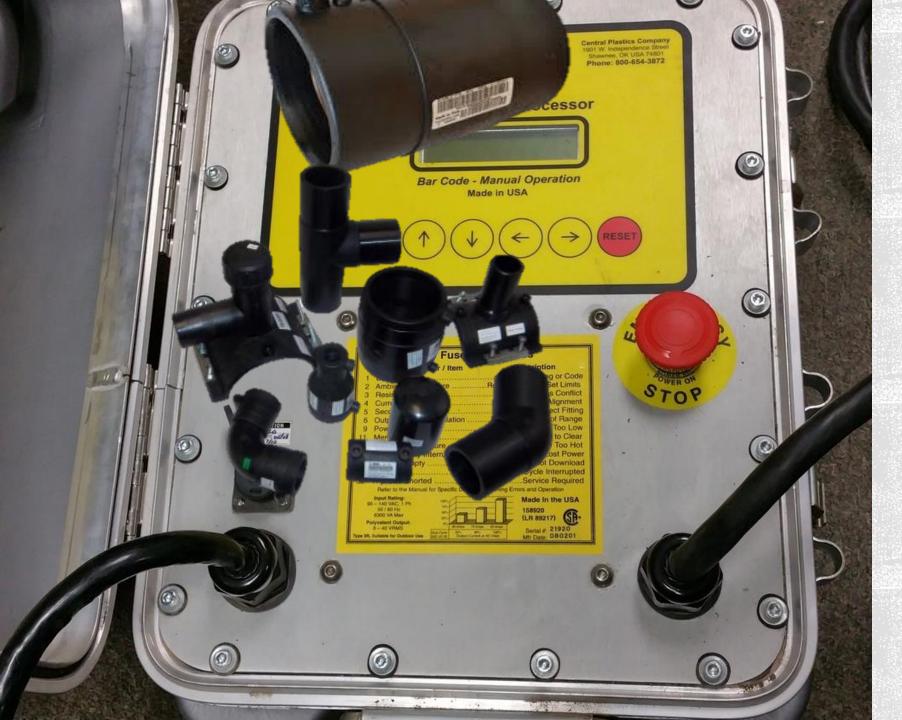


The majority of all Electrofusion fitting manufacturers procedures require "THE USE OF AN APPROVED SCRAPER" however the preferred method of pipe preparation is some type of "peeler" style tool.

The approved style of scraper varies with the manufacturer.

You must have a tool that is specified in your procedures.



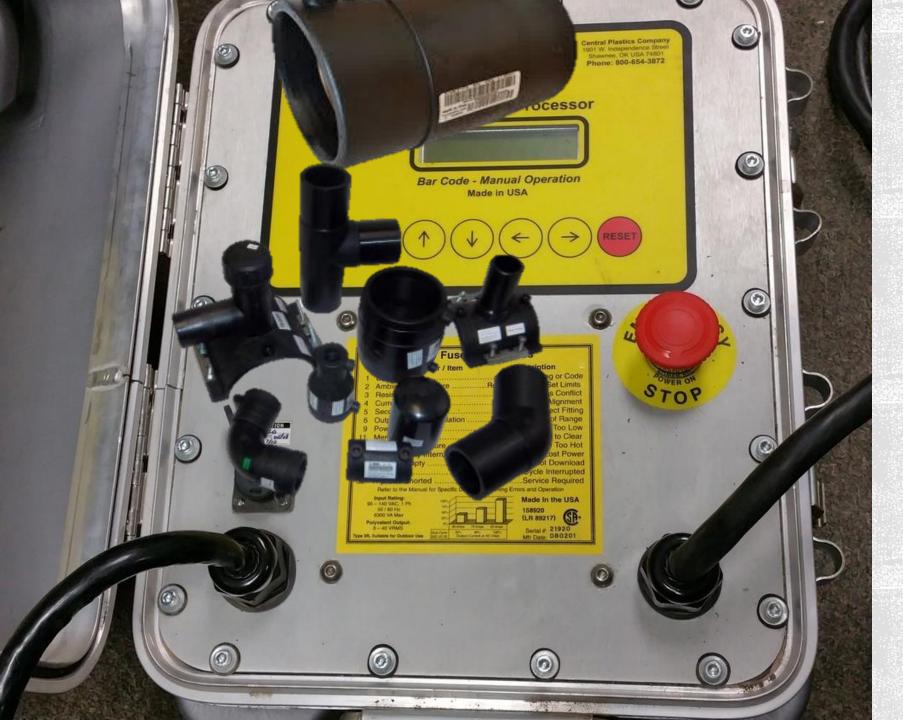


Pipe Scraping Tools must be capable of –

Removing the oxidation on the outer surface of the pipe.

Removing the material in a consistent smooth manner.





Methods that are NOT approved-

Abrading Cloth (sandpaper)

Razor Blades

"scotch brite pads"

Farriers Rasp

Pocket Knife

Putty Knife





NOT APPROVED ELECTROFUSION SCRAPING TOOLS



 Alcohol Used In the Electrofusion Process MUST Be 96% or GREATER







Depth should be marked to insure that pipe/coupling does not shift during fusion.

Clamping is not required on every size pipe but it is recommended.





Depth should be marked to insure that pipe/coupling does not shift during fusion.

Clamping is not required on certain sizes of pipe but it is recommended.





Depth should be marked to insure that pipe/coupling does not shift during fusion.

Clamping is not required on certain size pipe but it is recommended.





Fittings Should Be
Inspected Thoroughly
Before Use To Ensure That
Fittings Are Clean and
Undamaged



• Fittings Should Be Inspected Thoroughly Before Use To Ensure That Fittings Are Clean and Undamaged

Wires Were Not Coated From The Factory.



EQUIPMENT MAINTENANCE AND UPKEEP



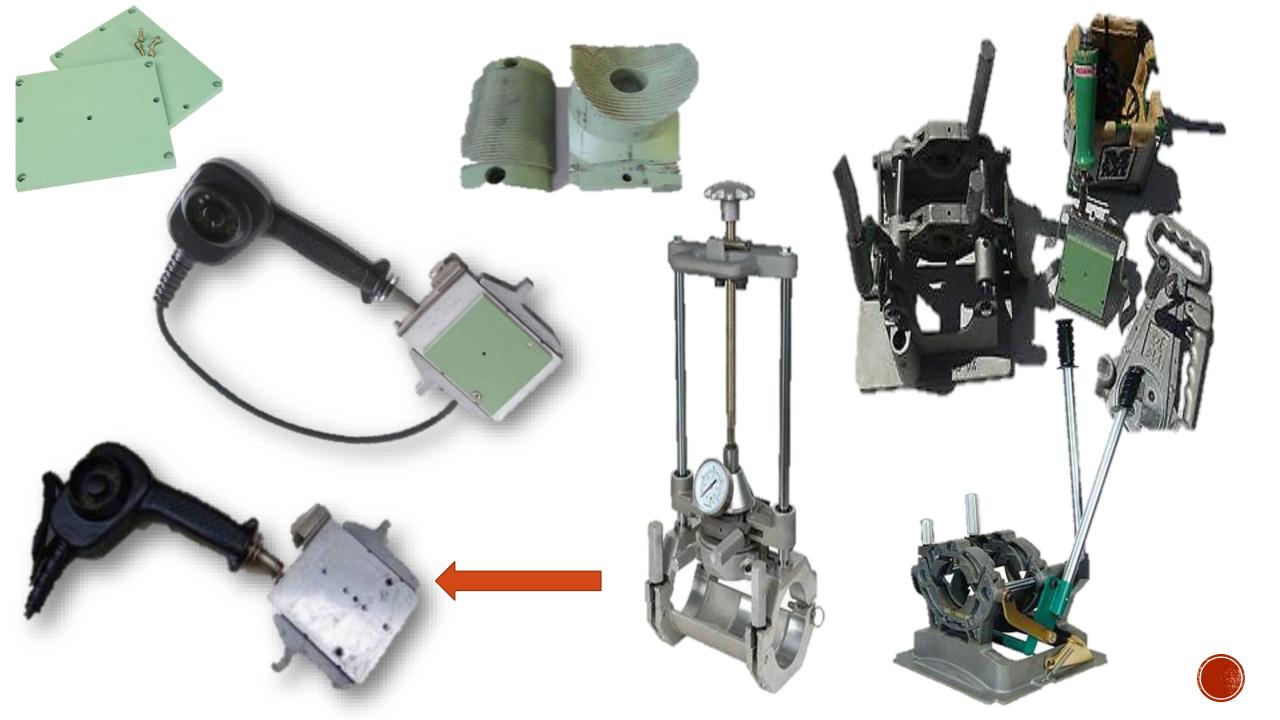


EQUIPMENT MUST WORK THE WAY IT WAS DESIGNED TO WORK

EQUIPMENT MAINTENANCE

All equipment used in the fusion process must be in Proper Working Condition







FUSION HEATER PLATES MUST HAVE THE PLATE ON THEM.

Can NOT use a plate without the Teflon Plate

Heater MUST have the Teflon plate on it









UNIVERSAL PROCEDURE POINTERS

Butt Fusion
Temperature is
400 to 450 degrees

NOT 500 degrees

Pipe Should be aligned properly in the cradle.



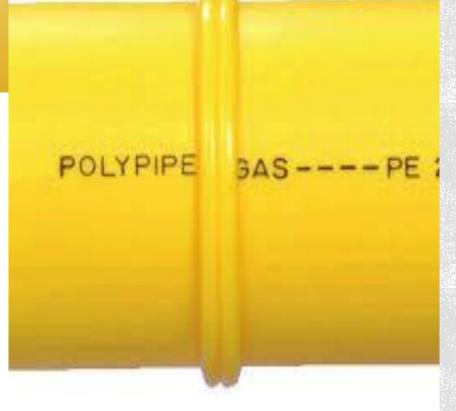


PIPE ENDS MUST BE ALIGNED PROPERLY

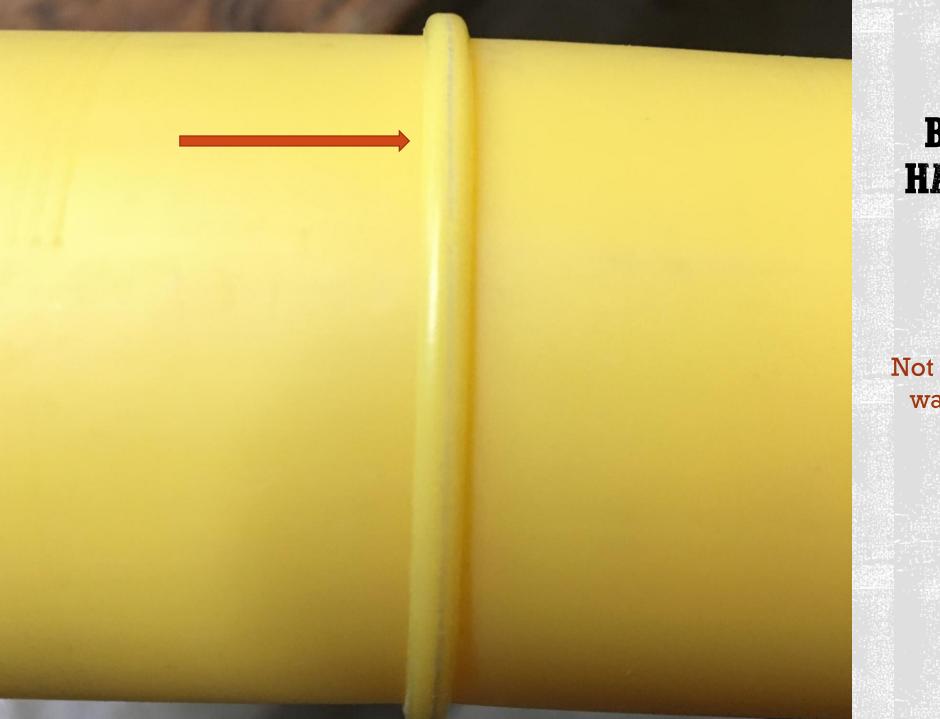




BEAD SHOULD HAVE A DOUBLE ROLL BACK







BEAD SHOULD HAVE A DOUBLE ROLL BACK

Not sure how a single roll was accomplished but there it is.





Unacceptable Heater Plate





Unacceptable Heater Plate





Unacceptable Heater Plate







Unacceptable Heater Plate

Plate not maintained properly











This could be considered acceptable, coating is still intact and not excessively gouged.





BUTT FUSION CRADLE

Cradle should move freely

Rails should be straight, smooth.

Proper Pipe inserts should be installed to match the size pipe being fused.





BUTT FUSION CRADLE

Well Maintained Equipment DOES NOT look like this.





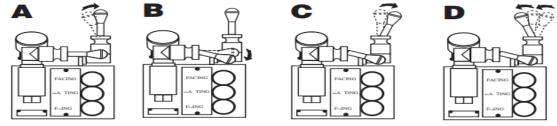


HYDRAULIC FUSION



ACAUTION Failure to follow the proper shift sequence, verify proper melt pattern and achieve proper cooling time may result in a bad joint.

After proper melt pattern has been established, use the **Approximate Melt Bead Size** chart on page 42 to determine the proper size, then:



- A) Shift carriage control valve to neutral position if not in this position already.
- B) Shift the selector valve down to fusion position.
- C) Move the carriage to the right just enough to remove the heater. The stripper bar on the heater should help "pop" heater loose. Quickly remove the heater without coming into contact with melted pipe ends.
- D) Quickly inspect pipe ends, which should be flat, smooth, and completely melted. Concave pipe ends are unacceptable, see page 42. If acceptable, shift carriage control valve to the left immediately bringing ends together and apply fusion pressure, calculated from page 35 or obtained from fusion pressure charts in Reference Section, pages 80-85.

Notice:

Bring pipe ends together being careful not to exceed the **Approximate Dwell/Transfer Times** shown on page 42.



Hydraulic Butt Fusion Machine Procedure

PROCEDURE MUST BE FOLLOWED

ALL bead
up/heating/ fusion
pressures/
Temperatures must
be followed as
required by pipe
manufactures charts





SPECIFIC MACHINE
TRAINING SHOULD
BE PROVIDED
BEFORE
PRODUCTION FUSES
ARE MADE



SIDE WALL AND SOCKET FUSION TEMPERATURE

490-510 degrees





SIDEWALL MACHINE

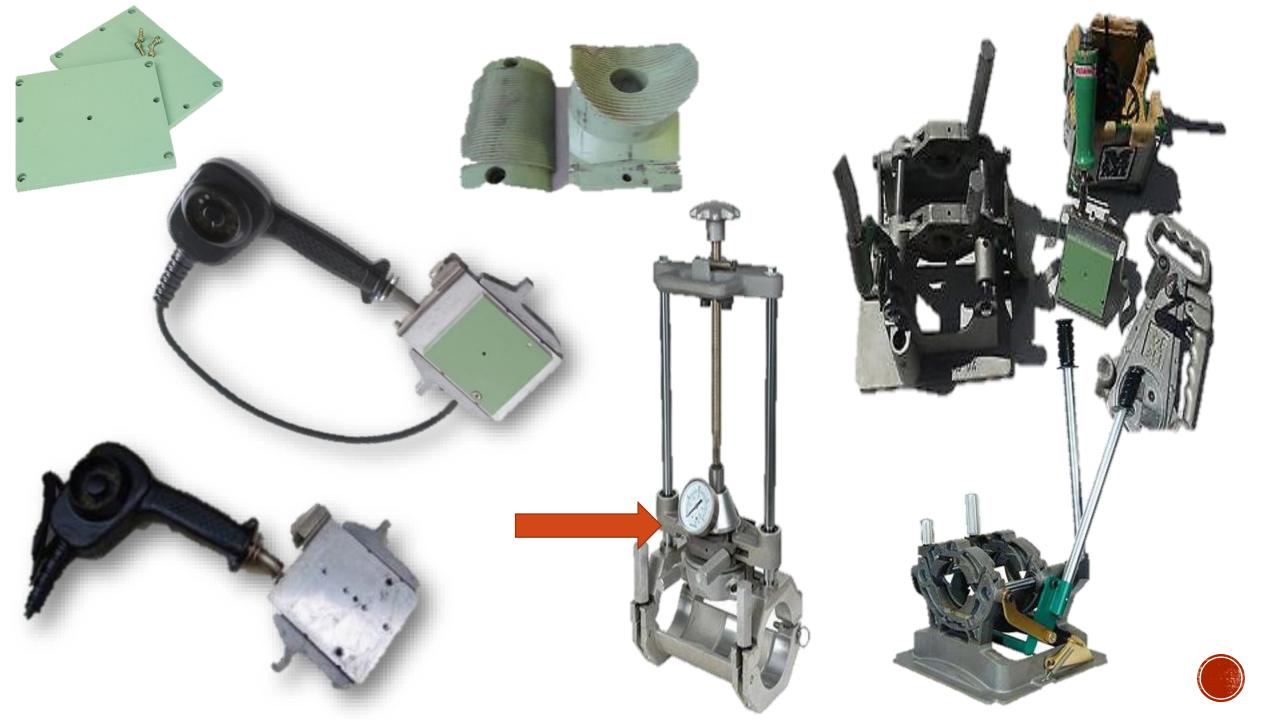
Rails should be smooth and clean.

Head unit should travel freely.

Gauge must be on the machine and in FUNCTIONING order. (probably should at least start out on zero)

Should have the proper pipe inserts for the size pipe being used.







Older fittings are not compatible with newer resin pipe





Pipe Preparation is Extremely Important.

Alcohol Can NOT be used after Pipe Has Been Abraded, ONLY BEFORE.





Fusion/ Heating
Pressures Must Be
Followed as Required by
Fitting Manufacturer.

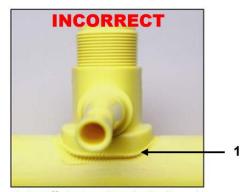




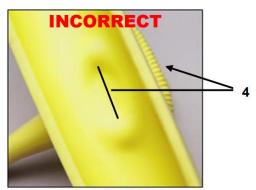
Acceptable Visual
Appearance of The
Fusion Bead Melt Pattern
is Required to Validate
the Fusion.



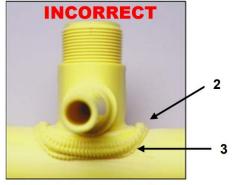
Unacceptable Fusions



1. Insufficient melt and misaligned



4. Excessive melt and force



- 2. Bead above base of fitting
- 3. Excessive melt and force



5. Insufficient melt

IF IT LOOKS BAD, IT MOST LIKELY IS.



UNACCEPTABLE SIDE WALL HEATER **PLATE**

FUSION PROCEDURE REQUIRES THE USE OF A PYROMETER

ALL HEATER PLATE TEMPERATURES MUST BE VERIFIED WITH AN EXTERNAL PYROMETER OF SOME KIND, THE DIAL GAUGES ON THE HEATER ARE NOT CONSIDERED ACCURATE.....





FACTORY TEMP. GAUGES

Not accurate, CAN NOT be used as verification of heater plate temperature.

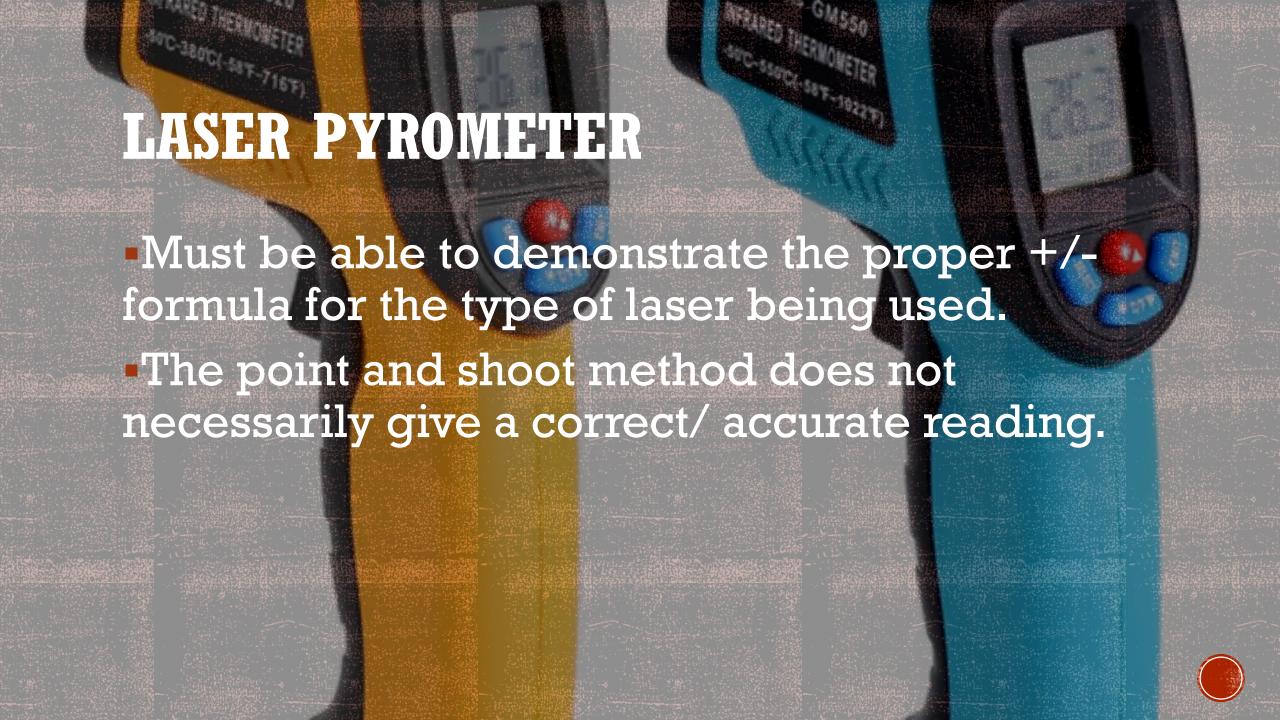




DIRECT CONTACT PYROMETER

Simple to use.





PIPE HANDLING PROCEDURES





EVERY OPERATOR HAS SOME TYPE OF PIPE HANDLING PROCEDURE IN PLACE.



FOLLOWING HANDLING PROCEDURES

Pipe should be handled properly at ALL times.

This includes how it is stacked and stored on the job site.

ALL pipe manufacturers have guidelines on how pipe should be stored and handled.





ROLLERS OR SOME
TYPE OF BARRIER
SHOULD BE USED
TO AVOID DAMAGE
TO PIPE IN
DAMAGING
ENVIRONMENTS



POWER POLE AND GUIDE ANCHOR PROBABLY SHOULD NOT BE USED AS A TURNING AID....





PIPE SHOULD BE PROVIDED "ADEQUATE" PROTECTION

If pipe is strung out and being pulled, it should be inspected to assure that it is not being damaged.





NOT HANDLED PROPERLY WHEN TRANSPORTING OR WAS DAMAGED WHILE BEING PULLED ALONG **ROW WITHOUT** ROLLERS OR **PROTECTION**





NOT HANDLED PROPERLY WHEN TRANSPORTING OR WAS DAMAGED WHILE BEING **PULLED ALONG ROW WITHOUT** ROLLERS OR **PROTECTION**



NOT HANDLED PROPERLY WHEN TRANSPORTING OR WAS DAMAGED WHILE BEING PULLED ALONG **ROW WITHOUT** ROLLERS OR PROTECTION, NOT INSPECTED **BEFORE FUSION** EITHER!



IMPROPER USE OF EQUIPMENT TO HANDLE PIPE

Pipe appears to have been moved by use of bucket tooth.





IMPROPER USE OF EQUIPMENT TO HANDLE PIPE

Pipe appears to have been moved by use of bucket





IMPROPER USE OF EQUIPMENT TO HANDLE PIPE

Pipe appears to have been moved by excavator tracks





IMPROPER USE OF EQUIPMENT TO HANDLE PIPE

Pipe appears to have been moved by excavator tracks





UNACCEPTABLE

Protect the Pipe in Some Way!





UNACCEPTABLE

Protect the Pipe in Some Way!





SIGN POST CAUSED REWOVAL OF EXTERNAL BEAD





EXCAVATOR OPERATOR REFUSED TO LISTEN TO HIS DITCH MAN





EXCAVATOR OPERATOR REFUSED TO LISTEN TO HIS DITCH MAN





DID NOT WANT TO WASTE TIME "HAND DIGGING"





DID NOT WANT TO WASTE TIME "HAND DIGGING"





PROBABLY SHOULD HAVE USED STRAPS





PROBABLY SHOULD HAVE USED NYLON STRAPS INSTEAD OF MACHINE BUCKET





PROBABLY SHOULD HAVE USED NYLON STRAPS





ON THE PIPE TRAILER READY TO BE FUSED TOGETHER

Inspect the pipe prior to fusion and prior to installing in ditch or pulling into the bore.



CORRECT USE OF ROLLERS AND CRIBBING



INCORRECT USE OF CRIBBING



MATTING DOES NOT MAKE IT BETTER





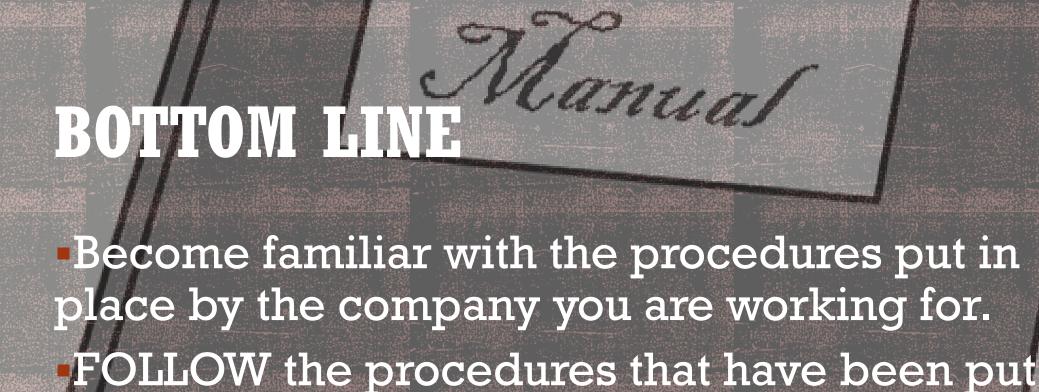
SERVICE LINE
BORED UNDER
STREET AND LEFT
ON NEW HOME
CONSTRUCTION
SITE, UNPROTECTED



SERVICE LINE BORED UNDER STREET AND LEFT ON-SITE, UNPROTECTED

FOLIOW PIPE HANDLING PROCEDURES





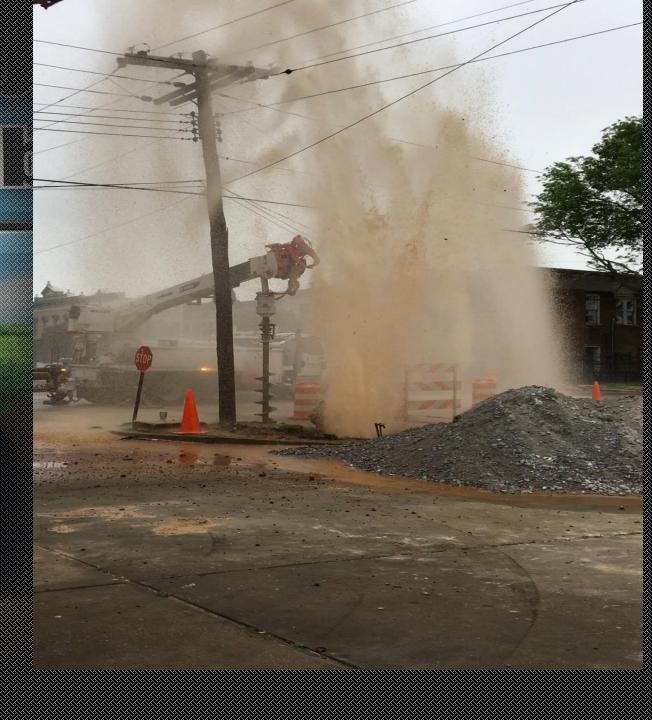
into place for use.



wire may not be wrapped erouse. Le pipe and confact with the pipe must be minimized but is not prohibited....

Make sure you adhere to the 18" rule on spotting located facilities. This 1" water tap was 1.5 inches outside of the small pothole that was used to spot the main.





ONYOUR 10B SITE

- · Have a valid line locate number
- · Be prepared to show proof of Qualification
- Be able to provide procedures for the task you are performing
- We will check your equipment for proper operation
- Be prepared to demonstrate proper execution of procedures

ANY QUESTIONS?



RANDALL D. HAND TRAINING COORDINATOR ALABAMA PUBLIC SERVICE COMMISSION

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334-850-0044

